

Claim Rejections - 35 U.S.C. § 102

4 and 5. Applicant begins his remarks by first respectfully asserting that the materials described in the current U.S. Patent Application S.N. 10/685,965 ("the '965 patent application") and in the cited U.S. Patent 6,357,054 ("the '054 patent") are not, and/or are not necessarily, the same (or substantially the same) under various provisions of the patent laws and M.P.E.P. comments as discussed in more detail below. Applicant believes that this assertion is also true of all of the other references cited (whether viewed individually or in the 35 U.S.C. § 103 combinations invoked by the Examiner). Since there are six such other references, Applicant has prepared the attached Table I in order to hereinafter more systematically comment upon all the cited references in the order (and 35 U.S.C. § 103 combinations) they appear in the Office Action.

Beginning with the Office Action's comments concerning the '054 patent, Applicant would first note that claims 1-8, 12, 14-20 and 24-33 have been rejected under 35 U.S.C. 102(e) as being anticipated by Bainbridge under various "inherency" concepts. However, this 35 U.S.C. 102(e) rejection also seems to invoke the teachings of a second reference, namely U.S. Patent 6,770,373 ("the '373 patent"). Applicant respectfully asks whether or not a 35 U.S.C. § 103 type rejection was intended? It might also be noted in passing that the present Applicant, David W. Bainbridge is a co-inventor in the '054 patent and, as such, has a particularly educated understanding of the scope of the teachings of that reference.

Be that as it may, if Applicant understands the general import of the Office Action correctly, the Examiner is, in effect, asserting that the subject matter covered by the claim limitations of the present patent application are inherent in the teachings of the references cited and/or are inherent in the composite materials that would be produced by the teachings of those references. In the alternative, the Examiner appears to be asserting that there is some sort of probability or possibility that these teachings (or materials) are "the same." The Examiner also sought to combine various teachings of said references under 35 U.S.C. § 103 in order to support some of the "inherency" arguments proffered in the Office Action.

To these ends, the Examiner began by contending that since the '054 patent teaches a bead/adhesive/void space system having beads of 1-10 mm average diameter, a 10-40% void volume and the presence of a glue (and especially a urethane-based glue, such as those taught in the '373 patent), that system must therefore inherently have (or probably

have) the other claim limitations e.g., (1) an adhesive component that comprises 20-80 weight percent of the final bead/adhesive/void volume product, (2) at least 50 percent of the beads at least 50 percent covered by the adhesive and, possibly, (3) hardness values of Shore A-20 to A-95 for the cured form of the adhesives employed.

In response, Applicant respectfully submits that these assertions are either not true at all, or are not necessarily true. (Applicant has, and will continue to, underline the word "necessarily" because this word plays a very important part in certain M.P.E.P. standards that will be hereinafter more fully discussed.) Applicant continues by counter-asserting that just because the '054 patent teaches: (1) use of beads having 1-10 mm diameters, (2) the presence of 10-40 percent void volumes and (3) the "possible" presence of an undisclosed amount of adhesive in the final product, these factors do not necessarily imply that the final product of the '054 patent must necessarily be comprised of, say, the 20-80 weight percent adhesive requirement, or the 50% coverage requirement called for in the present '965 patent application. To support these aspects of his counterargument, Applicant first directs the Examiner's attention to certain language of the '054 patent (column 14, lines 36-37) which states: "The fusing can be done, for example, by lightly steaming or gluing the beads" (emphasis added). That is to say that the '054 patent teaches "fusing" its beads together by steaming as well as by gluing.

Consequently, the Examiner is asked to at least consider the possibility that fusing the '054 patent's beads by steaming could create a system wherein no adhesive whatsoever is present. Applicant also asks the Examiner to consider an alternative idea to the effect that a final product of the '054 patent might just as well have been comprised of say only 5 weight percent adhesive while still employing beads having 1-10 mm diameters and producing a final product having a 10-40 percent void volume. It would appear that Applicant's 5 weight percent adhesive assumption is just as valid as the Examiner's 20-80 weight percent assumption because the '054 patent teaches absolutely nothing about the amounts of adhesives that may be employed in its products. In other words, Applicant is respectfully suggesting the presence of 20-80 wt. % adhesive in the '054 patent teachings is an assumption, or an entertainment of a possibility, on the part of the Examiner. Applicant is also of the opinion that just because the '054 patent teaches 1-10 mm bead diameters, 10-40 percent void volumes and the possible presence of adhesives, these factors in no way teach

or suggest anything whatsoever about the hardness of the cured forms of the adhesives that may be used in the '054 patent materials.

Similarly, just because the '054 patent teaches use of beads having 1-10 mm diameters, the presence of 10-40% void volumes and the possible presence of an undisclosed amount of adhesive in its final product, the presence of these factors does not necessarily imply that at least 50% of the beads in the final product will be at least 50% covered with that adhesive. Here again, if the final product of the '054 patent contained no adhesive whatsoever (because the beads were steamed rather than glued), or contained only the above postulated 5% adhesive, then there would be no adhesive whatsoever present in the final product or, in the alternative, there might not be enough adhesive to cover at least 50% of the beads with at least 50% adhesive.

This all goes to say that even assuming for the sake of argument that the '054 patent conceivably may suggest "coating" the beads with an adhesive, this concession does not extend to some of the current '965 patent application's other claim limitations [e.g., (1) 50% of beads being at least 50% covered by adhesive, (2) adhesive constituting 20-80 wt. % of the final product and (3) use of Applicant's Shore hardness levels]. In other words, Applicant is of the opinion that the Examiner's conclusions, to the effect that there must be 20-80 wt. percent adhesive present in the '054 patent's materials, that 50% of the beads are at least 50% covered, etc. seem to be based upon an "overstretched" assumption and/or conclusion regarding the amount of adhesive in the final product. And, here again, the fact that the '054 patent beads may be (or may not be) at least 50% covered with an adhesive says absolutely nothing about the hardness of that adhesive. This all goes to say that the Examiner has not given due consideration to all of the limitations of Applicant's claims.

Next, the Examiner is asked to more fully consider that the '965 patent application emphasizes the importance of the hardness of the cured adhesive (i.e., Shore Hardness levels of A-20 to A-95) in all of its final product materials. Applicant would also ask the Examiner to note that the hardness of the cured adhesive is also conjunctively associated with other attributes of the cured adhesive (e.g., 20-80 wt. % or 2-5 vol. % etc.). For example, these points are covered in the first paragraph of page 67 of the present patent application. This paragraph reads as follows:

"Applicant's experimental findings have established that, when used in the hereindescribed proportions (20-80 wt. % or 2-5 vol. %), certain adhesives (those having hardness levels ranging from about Shore A 20 to Shore A 95) play an important part in the ability of the hereindisclosed bead/adhesive/void space padding materials to repeatedly absorb high levels of impact energy. This finding was primarily established through use of various impact tests. For example, in one series of such impact tests (so-called Acceleration Peak (G) tests) whose results are shown below as Test 1 below, applicant kept the percent of adhesive constant at 2 volume percent and varied the "hardness" of the adhesive. This variation in hardness was accomplished by increasing the number of chemically active sites of the adhesives by adding varying amounts of a second chemically active component to a base resin system. For example in polyurethane formulations, the relative amount of N=C=O component of the adhesive was varied relative to a NH-C-NH component of said adhesive. Such tests indicated that as the hardness of the adhesive material used to create the subject bead/adhesive/void space materials of this patent disclosure was increased, the material's impact absorptive ability increased as well. These tests also indicated that the adhesive itself (and not just the beads) contributes greatly to the impact absorption qualities of applicant's padding materials." (emphasis added)

The above quoted language, and the underlying data further supporting that language, clearly show that, under the teachings of the present invention, the same general type of adhesive material, e.g., polyurethane, can have different Shore hardness values according to how that adhesive's original ingredients were formulated. In other words, the above language teaches that some polyurethane adhesives can cure to hardness values falling within Applicant's Shore A-20 to Shore A-95 range - while other polyurethane adhesives can cure to hardness values outside of Applicant's Shore A-20 to Shore A-95 range. Thus, the '965 patent application clearly shows that two urethane-based adhesives can have different hardness levels. Moreover, Applicant has clearly demonstrated that these different hardness levels can be used to achieve different results (e.g., the ability to repeatedly absorb high levels of impact energy) in Applicant's final products according to whether or not such urethane-based adhesives were specifically formulated to have cured adhesive hardness values ranging between Shore A-20 and Shore A-95.

Thus, it seems to Applicant that, even though the Office Action does not specifically say so, the Examiner's rationale for "inherency" appears to be based upon a conclusion (or assumption) that the adhesives described in both the '054 patent and the present '965 patent application have (or may have) a urethane component - and therefore must be "the same" in

every respect. Again, Applicant's response to any such assertion is: even if it were assumed for the sake of argument that both adhesives do in fact contain urethane, this circumstance would not, under the teachings of the present invention, necessarily mean that both urethane-based adhesives will necessarily have the same hardness levels. Indeed, the above-quoted language clearly teaches just the opposite i.e., that different urethane-based adhesives can have different hardness levels depending on the ratio of the urethane-based adhesives' N=C=O/NH-C-NH ingredients.

Next, the Examiner is asked to consider that Applicant's discovery of the importance of the hardness of the cured adhesive with respect to the impact absorption qualities of the final product material was established by the experimental work described in Tables 1 and 2 of the present patent application. Moreover, Applicant would further submit that since none of the references teach anything whatsoever about the adhesive hardness levels in such compositions, this fact alone is evidence that Applicant's findings with respect to the adhesive hardness/impact absorption should be regarded as an "unobvious difference" between Applicant's present materials and any of the urethane-containing end product materials covered by the cited references. Applicant recognized this point at page 74, lines 1-9 of the '965 patent application with the following comments:

"It is counterintuitive that a harder, and presumably more brittle, adhesive material would be a better impact absorbing material than a softer, more elastic adhesive. Nonetheless, this is the case in applicant's bead/adhesive/void space padding materials. Applicant has made many tests such as Tests 1 and 2 and have concluded that some form of micro-fracturing of the adhesive, and perhaps even certain kinds of beads, takes place during impact and that this microfracturing can greatly contribute toward the impact absorbing quality of these padding materials."

Once again, it would appear that the Examiner is supporting an "inherency" concept by a supposition and/or conclusion that the adhesive taught in the '054 patent is the "same as" the adhesives disclosed in the present patent application wholly because (1) use of urethane-based resins was taught in the '054 patent and (2) because use of urethane-based resins also is noted in the list of possible adhesives in the present patent application. In other words, the Examiner seems to be "unequivocally" supposing that since these two adhesives are both urethane-based, they must necessarily have comparable hardness levels. U.S. Patent No. 6,770,373 - "the '373 patent" seems to have been added to the Examiner's

inherency argument because it teaches the general use of urethane-based resins to produce adhesives. (Applicant would however interject here that the '373 patent does not teach or suggest anything about the hardness of its disclosed urethane-based adhesives.) In other words, it appears that the possible presence of urethane in the respective adhesives is being used by the Examiner to create an argument to the effect that, since both adhesives are urethane-based, they must necessarily be "the same" - and hence have the very same attributes (e.g., hardness). However, the above quotation clearly shows that such an assumption and/or conclusion is wrong. Again, the above quotation clearly shows that the relative proportions of the same ingredients (N=C=O and NH-C-NH) can be adjusted to produce different hardness values in the final product adhesive - even though both materials could be fairly characterized as "urethane-based" adhesives. Stated another way, Applicant respectfully asserts that the "inherency" argument raised in the Office Action completely ignores, or sidesteps, or seriously downgrades one of the most important aspects of the overall inventive concept of the present invention - namely, the specific requirement for a Shore A-20 to Shore A-95 hardness in the cured form of Applicant's adhesives.

It should also be emphasized here that, under the broader teachings of the present invention, adhesives employing active ingredients other than urethane (see page 64, line 22 to page 65, line 11 of the current '965 patent application) also can be formulated to produce adhesives having Applicant's required Shore Hardness values in the A-20 to A-95 range.

Re: Table I

In order to more systematically further deal with the inherency concepts invoked by the Examiner with respect to the cited references, Applicant has prepared the attached Table I wherein the subject '965 patent application and all of the references cited in the subject Office Action are listed vertically, while various elements of claim 1 of the '965 patent application are listed horizontally to produce a matrix. The individual information blocks contained in the resulting matrix have three different kinds of entries. An information block with a check mark (✓) indicates that Applicant assumes for the sake of argument that the concept associated with the appropriate claim 1 element is taught or reasonably suggested in the cited reference. An information block containing a written comment indicates that Applicant assumes for the sake of argument that the claim limitation concept is taught or suggested, at least in part, in

that reference, but asks the Examiner to further consider other relevant factors that are also in play with respect to that information block. That is to say that those matrix blocks containing such comments, among other things, are intended to suggest that certain claim limitation attributes [e.g., (a) 50% beads at least 50% adhesive coated, (b) adhesive 20-80 wt % of product, (c) void volume 10-40% of product] might, or might not, follow from some of the other attributes noted in that reference. For example, as previously discussed, a bead/adhesive system (e.g., that taught in the '054 patent) having beads with 1-10 mm average diameters, 10-40% void volume and the presence of an unspecified amount of adhesive might, or might not, result in a system wherein 50% of the beads are at least 50% adhesive coated - if in fact enough adhesive (e.g., at least 20% by weight) were present. Finally, a block containing a large X mark indicates that Applicant is of the opinion that the concept corresponding to that matrix block is not taught - or reasonably suggested - by the subject reference under appropriately applied "inherency" concepts.

Before more systematically commenting on the various references vis-à-vis the seven attributes listed across the matrix, Applicant would first seek to "cut to the chase" by calling the Examiner's attention to the fact that Table I very graphically suggests that perhaps the most important element of the '965 patent application is found under the column designated "Cured to Shore A-20 to A-95." The unbroken column of Xs appearing under that heading suggests that none of the references teach, or reasonably suggest any "adhesive hardness" concepts whatsoever.

Re: The '054 Patent

Applicant would continue by next comparing the teachings of the '054 patent with the claim limitations listed across Table I, in the order that they are so listed. For example, with respect to the column designated "Excitation Zone Treated," the Examiner is asked to note that Applicant has entered the phrase "only corona treatment taught." In effect, this entry seeks to call attention to the fact that its column 15, lines 6-13, contains the following statement:

"In another embodiment, the waterproof beads 22 of the pad 12' of FIGS. 45-46 are made of substantially inelastic or crushable material (e.g., closed-cell polystyrene foam) and are preferably first subjected to a corona treatment in an inert gas atmosphere (e.g., a noble gas such as argon) to raise the surface

energy of the beads 22 and then fused together (e.g., with an adhesive such as a water-based urethane or neoprene)."

This quotation is intended to show that Applicant recognizes that corona treatments are taught by the '054 patent and that such corona treatments are recognized as a species of "electrical excitation zone treatment" - as taught by the '965 patent application. However, the Examiner is asked to also consider that Applicant teaches the use of a wide variety of electrical excitation zone treatments. For example, page 10, lines 3-9 of the present application contains the statement:

"In any case, applicant's processes begin with corona, plasma, hybrid corona/plasma and/or glow discharge treatments of the polymer beads that will be combined with an adhesive material to make the subject composite materials. Thus, for the purposes of this patent disclosure these beads can be referred to as 'electrical excitation zone-treated' particles, beads, etc."

Continuing on with the teachings of the '054 patent, Applicant next notes that the matrix block of Table I created by the column headed "Adhesive Coated Beads" and the row for the '054 patent contains the phrase "steamed/glued beads." This notation is in keeping with previous discussions contained in this response in that it seeks to call attention to the fact that, even though gluing is mentioned as a method of holding the subject beads together, the '054 patent also clearly states that its fusing step can be carried out by steaming the beads rather than gluing them. That is to say that Applicant assumes for the sake of argument that the teachings of the '054 patent raise the possibility of the presence of an undisclosed amount of glue (adhesive) in the subject materials. It is however also equally true that use of steam fusing (rather than gluing) raises the possibility that no glue whatsoever is present in the end product material produced by the teachings of the '054 patent.

The check mark in the block created by the heading "1-10 mm Bead Diameter" and the '054 patent indicates that Applicant agrees that the '054 patent clearly teaches use of beads having diameters ranging from 1-10 mm. Next, Applicant asks the Examiner to note that the block created by the "50% Beads at Least 50% Adhesive Coated" column and the '054 patent contains Applicant's comment "not necessarily true." As previously discussed, the '054 patent materials may not contain any adhesive whatsoever (e.g., when the fusing step is carried out by steaming). On the other hand, if an adhesive is in fact employed to fuse the

subject beads, this does not necessarily imply that the adhesive will be used in amounts such that at least 50% of the beads will be at least 50% adhesive coated. Again, this conclusion follows from the fact that the '054 patent does not teach anything concerning the relative amounts of adhesive employed.

The block created by the "Cured to Shore A-20 to A-95" and by the '054 patent is Xed out to indicate Applicant's previously discussed view that the '054 patent contains no teaching or suggestion whatsoever as to the hardness of the cured form of the adhesive.

The block created by the column "Adhesive 20-80 wt. % of Product" also contains Applicant's comment "not necessarily true." Again, the materials taught by the '054 patent may, or may not, contain an adhesive. Moreover, even if the material does contain an adhesive, this does not necessarily mean that the adhesive represents 20-80 wt. % of the final product.

Finally, Applicant agrees that the '054 patent clearly teaches production of a final product material generally falling within Applicant's 10-40% void volume limitation. Hence, this block contains a check mark (✓).

Re: U.S. Patent 6,770,373

U.S. Patent 6,770,373 ("the '373 patent") teaches that urethane can be used to make adhesives. Nothing in the '373 patent, however, teaches anything about the hardness of an adhesive made with that urethane. Moreover, there is no logical nexus to the subject matter of any of the seven headings (Excitation Zone Treated, Adhesive Coated Beads, etc.) listed in Table I. Hence, every block listed across the '373 patent row is Xed out.

Re: U.S. Patent 6,301,722

6 and 7. U.S. Patent 6,301,722 to Nickerson ("the '722 patent") does not teach or suggest electrical excitation zone treatment of the product's bead components. Hence, that block is Xed out. However, like the '054 patent, the '722 patent does teach gluing (or steam fusing) its adjacent, abutting beads. Thus, this gluing teaching may, generally, fall under Applicant's adhesive coating concept. Moreover, the '722 patent clearly teaches the use of beads having 1-10 mm average diameters. Next, Applicant would assert that a fair analysis of the teachings of the '722 patent with respect to the "50% Beads at Least 50% Adhesive

Coated" limitation would be substantially the same as those given with respect to the material taught by the '054 patent. That is to say that, even if the '722 patent's final product does, in fact, contain glue (as opposed to the beads being steam fused) the glue may, or may not, be present in quantities capable of coating at least 50% of the beads with at least a 50% coating.

And, as was the case with the other references, the '722 patent contains no teaching whatsoever concerning the hardness of the cured form of its adhesive - if, in fact, such an adhesive is employed.

The block created by the "Adhesive 20-80 wt. % of Product" heading and the '722 patent also can be dealt with through use of comments similar to those employed with respect to the '054 patent. That is to say that even if Applicant concedes, for the sake of argument, that the '722 patent system does, in fact, contain an adhesive, this does not necessarily teach that the adhesive is present in an amount such that the adhesive represents 20-80 wt. % of the product. Finally, Applicant concedes that the '722 patent does teach the presence of a 10-40% void volume in its final product.

Re: DVD Reference

The DVD reference teaches electrical excitation treatment of particles - but not necessarily particles of the type employed by Applicant's composite materials. Be that as it may, the relevant matrix block in Table I contains a check mark for the sake of argument. However, the DVD teaches nothing concerning the hardness of adhesives used to hold its electrically treated particles together. Moreover, the DVD reference does not teach or suggest anything concerning the other claimed attribute limitations of Applicant's materials. Hence, all of the other DVD blocks are Xed out.

Next, Applicant would respectfully assert that, even if one combines (under 35 U.S.C. § 103) the electrical excitation zone treatment of particles teachings of the DVD reference with the above-described teachings of the '722 patent to Nickerson, one is still left with a composite material that suffers from most of the deficiencies noted above with respect to the '722 patent. For example, a '722 patent material wherein the beads were electrically treated still would not necessarily: (1) have at least 50% of its beads at least 50% adhesive coated, (2) have its adhesive component constitute 20-80% of its final product and (3) have an adhesive whose Shore hardness is in Applicant's Shore A-20 to Shore A-95 range. Finally,

given these differences, it would appear that the Examiner's point concerning the fact that both materials may arguably be characterized as being "breathable" does not change the fact that they are different in the ways enumerated above.

Re: U.S. Patent 4,034,506

8. U.S. Patent 4,034,506 to Kasahara ("the '506 patent") does not teach or suggest electrical excitation zone treatment of its beads. It does, however, teach adhesive coating such beads. Moreover, this reference also teaches the use of beads having 2-20 mm diameters which partially fall within Applicant's bead diameter range. The '506 patent does not, however, teach or suggest coating its beads to an extent such that at least 50% of such beads are at least 50% adhesive coated. Likewise, the '506 patent in no way teaches or suggests use of adhesives having cured hardness levels of Shore A-20 to Shore A-95. Applicant does, however, concede for the sake of argument, that the '506 patent teaches an adhesive weight percentage that at least partially falls within Applicant's "Adhesive 20-80 wt. % of Product" limitation. Finally, even though the '506 patent's "foamed" products will no doubt contain some void volume, nothing contained in the '506 patent teaches that such a void volume will fall within Applicant's 10-40% void volume limitation.

And here again, even if one combines (under 35 U.S.C. § 103) the electrical excitation of particles used in making composite materials taught by the DVD with the teachings of the '506 patent to Kasahara, one is still left with a resulting material that may not have (1) at least 50% of its beads, at least 50% coated, (2) a 20-80 wt. % adhesive component and/or (3) an adhesive having a Shore hardness in Applicant's A-20 to A-95 range. In short, the resulting materials are not, or are not necessarily, the "identical chemical compositions" such as those discussed in the In re Spada reference that was cited by the Examiner with respect to the Kasahara patent.

Re: U.S. Patent 3,856,721

9 and 10. U.S. Patent 3,856,721 to Fritschel ("the '721 patent") does not teach or suggest use of an electrical excitation zone to treat its beads. Fritschel's beads can, however, be coated and have average diameters generally falling within Applicant's 1-10 mm range. The '721 patent does not, however, discuss whether or not at least 50% of the beads

might be at least 50% coated. Moreover, the '721 patent in no way teaches or suggests that the hardness levels of its cured adhesives be at any given level. Although the adhesives (1) may (or may not) contain 20-80 wt. % of the product and (2) may (or may not) have void volumes of 10-40%, these limitations are not specifically taught in the '721 patent disclosure.

And once again, electrically treating the beads of the '721 patent a la the teachings of the DVD, would not necessarily produce a final product having (1) 50% of the beads 50% coated, (2) an adhesive component constituting 20-80 wt. % of the product or (3) Shore hardness levels at the levels taught and claimed by Applicant. Thus, the Examiner's assertion: "That is exactly the same adhesive being used by Applicant" is simply not true under the teachings and claim limitations of the present patent disclosure.

Re: U.S. Patent 5,888,642

U.S. Patent 5,888,642 to Mateer ("the '642 patent") does not teach electrical excitation treatment of its subject beads. These beads could however have average diameters that could fall within Applicant's 1-10 mm range. Hence, that block is checked. This reference also teaches adhesive coating such beads to some unspecified degree. And here again, the '642 patent does not in any way deal with the concept of the hardness of its cured adhesives. Moreover, the '642 patent does not specifically teach a system whose adhesive component is 20-80 wt. percent. The '642 patent does, however, clearly teach a system having a 26% void volume.

And once more, a 35 U.S.C. § 103 combination of the teachings of the '642 patent with the teachings of the DVD and the '721 patent still would not necessarily produce materials that are inherently "the same" as Applicant's with respect to its 50% bead covering concept, its 20-80 wt. percent adhesive component requirement and/or its Shore hardness levels.

Re: The Kaplan Article

In Applicant's opinion, the Kaplan article "Applications for Plasma Surface Treatment in the Medical Industry," does not add anything more substantive to the "inherency" issues already raised in the Office Action.

Legal Considerations

From the legal perspective, it would also appear that the Examiner's inherency argument is based in large part upon an assumption (and/or upon a conclusion) that the materials described in the current '965 patent application are "the same" as those described in the '054 patent, or in the other references. In the alternative, the Examiner may be arguing that these materials are (or "probably" are) "the same" because they are both urethane-based. That is to say that the Examiner seems to be arguing either of these positions on the grounds that, since both adhesives are (or could be) urethane-based, they must have the same attributes (including the same hardness levels). In response, Applicant would reiterate that he has clearly shown that even different urethanes can produce adhesives having different hardness levels. Hence, at the very least, the Examiner has failed to give due consideration to all of the limitation elements of the claims of the present patent application.

A fair reading of Sections 2112 to 2112.02 of the M.P.E.P. would seem to indicate that the Examiner's "inherency" rejections are inappropriate in this particular case. Stated another way, Applicant respectfully asserts that the Examiner has failed to establish that the allegedly "inherent" characteristics necessarily flow from the teachings of that prior art. Again, Applicant is of the opinion that such assumptions or conclusion are invalid because they ignore, sidestep and/or very seriously downgrade Applicant's experimental data. Moreover, the Examiner's line of reasoning regarding the "sameness" of the materials described in the prior art references might also be accused of using "probabilities or possibilities" (as opposed to "necessities") to make the subject inherency arguments. The Examiner's attention is especially directed to the language contained in the following quotation from 2112(IV) of the M.P.E.P.

"The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); *In re Oelrich*, 666 F.2d 578, 582-82, 212 USPQ 323, 326 (CCPA 1981). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" ...

In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." (emphasis, starting with the underlined word "necessarily," added)

Given that Applicant has repeatedly shown that the prior art composite materials do not necessarily possess the characteristics of the presently claimed materials, it would appear that the Examiner's inherency assertions are in serious conflict with the above-quoted M.P.E.P. passage. In Applicant's opinion, this conflict with the M.P.E.P. follows in large degree from the fact that the Examiner's core assumption (i.e., that all urethane-based adhesives must be inherently "the same" in every respect) is erroneous - if for no other reason than the fact that such an assumption directly contradicts Applicant's experimental data. Moreover, the Examiner is again reminded that the claims are comprised of at least seven conjunctively joined elements that should all be given due consideration.

Therefore, Applicant respectfully requests that the claims (in their now amended form) be allowed.

Should the Examiner have any questions regarding the above, please feel free to give the below-listed attorney a call. If any additional fees are required, please debit our Deposit Account No. 04-1414.

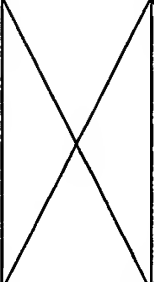
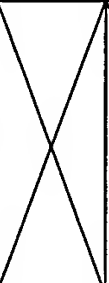
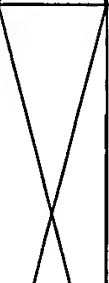
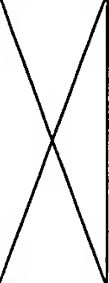


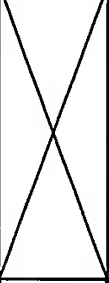
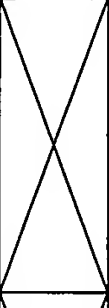
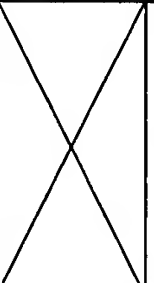
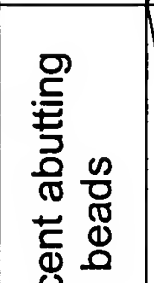
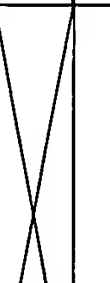
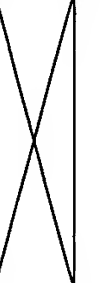
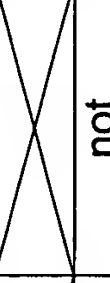
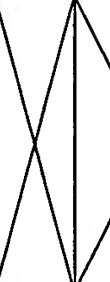
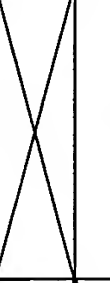
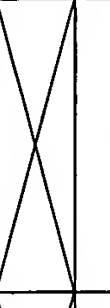
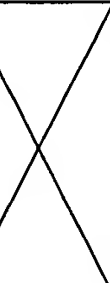


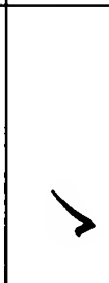

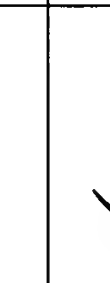
Respectfully submitted,

DORR, CARSON, SLOAN, BIRNEY & KRAMER, P.C.

Date: Aug. 15, 2005

By: Jack C. Sloan
Jack C. Sloan
Reg. No. 26,806
3010 East 6th Avenue
Denver, Colorado 80206
(303) 333-3010

Table I

| Subject U.S. Patent Application 10/685,965 | Excitation Zone Treated | Adhesive Coated Beads | 1-10 mm Bead Diameter | 50% Beads at Least 50% Adhesive Coated | Cured to Shore A-20 to A-95 | Adhesive 20-80 wt. % of Product | Void Volume 10-40% of Product |
|--|---|---|---|--|---|---|--|
| 6,357,054 (Commonly Owned) | only corona treatment taught | steamed/glued beads | ✓ | not necessarily true |  | not necessarily true | ✓ |
| 6,770,373 |  |  |  |  |  |  |  |
| 6,301,722 (Commonly Owned) |  | adjacent abutting beads | ✓ | not necessarily true |  | not necessarily true | ✓ |
| DVD | ✓ |  |  |  |  |  |  |
| 4,034,506 |  | ✓ | ✓ | not necessarily true |  | ✓ | ✓ |
| 3,856,721 |  | ✓ | ✓ | not necessarily true |  | not necessarily true | ✓ |
| 5,888,642 |  | ✓ | ✓ | not necessarily true |  | not necessarily true | ✓ |